

CLAIMS

- 1) Oral solid formulation containing, as active ingredient, a substance useful in the Inflammatory Bowel Disease therapy, characterized by the association of different polymers or mixtures of polymers, each one soluble starting from a pH value different from the others and ranging from 6 to 7, and by the multiphasic release of such active ingredient, each phase occurring at a different pH value ranging from 6 to 7.
- 2) Formulation according to claim 1 wherein such association of polymers or mixtures of polymers includes a polymer or mixture of polymers soluble starting from pH 6, a polymer or mixture of polymers soluble starting from pH 6.5, and a polymer or mixture of polymers soluble starting from pH 7.
- 3) Formulation according to claim 2 wherein the release of the active ingredient in every phase occurs in the following pH-dependent ratios:
- | | | | |
|----------|---|--------|---|
| pH = 6 | ⇒ | 10-60% | of the active ingredient, preferably 30-35% |
| pH = 6.5 | ⇒ | 10-60% | of the active ingredient, preferably 30-35% |
| pH = 7 | ⇒ | 10-60% | of the active ingredient, preferably 30-35% |
- 4) Formulation according to claim 1 wherein such active ingredient is mesalazine.
- 5) Formulation according to claim 1 wherein such active ingredient is chosen from the group including steroids, antibiotics and anti-inflammatories.
- 6) Formulation according to any of the preceding claims in the form of micro-tablets, tablets, granules or microgranules or pellets of three types, each one presenting a coating including a polymer soluble starting from a pH value ranging from 6 to 7, such pH value being different for each of such three types.
- 7) Formulation according to claims 6 wherein such coating contains also from 0 to 40% of a fatty acid at 12-20 carbon atoms and from 0 to 40% of a pharmaceutically acceptable plasticizer.
- 8) Formulation according to claim 6 wherein the tablets, micro-tablets, granules or

microgranules or pellets are dosed in capsules.

- 9) Formulation according to claim 6 wherein the granules or microgranules or pellets are dosed in sachets or dispensers for granules.

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- 10) Formulation according to claims 1 or 2 or 3 or 4 or 5 or 6 in the form of a multilayer tablet.

- 10 11) Formulation according to claim 10 wherein the multilayer tablet is made of three layers, each one including, besides the active ingredient and the excipients commonly utilized for the preparation of tablets, a polymer or a mixture of polymers soluble starting from a pH value ranging from 6 to 7 and different from the one at which the polymer or mixture of polymers dissolve in the other two layers.

- 15 12) Formulation according to claim 11 wherein the internal layer includes a polymer or mixture of polymers soluble starting from pH 7, one of the external layers includes a polymer or mixture of polymers soluble starting from pH 6.5 and the second external layer includes a polymer or a mixture of polymers soluble starting from pH 6.

- 20 13) Formulation according to claims 1 or 2 or 3 in the form of tablets or multilayer tablets including, also in the tablet core from 5 to 35% of the polymer or mixture of polymers utilized in their coating, from 0 to 10% of a fatty acid at 12- 20 carbon atoms and from 0 to 10% of a pharmaceutically acceptable plasticizer.

- 25 14) Formulation according to claim 13 wherein the multilayer tablets have a coating including a polymer or mixture of polymers soluble at pH 6.

- 30 15) Formulations according to any preceding claims 1-9 wherein such polymer soluble starting from pH 6 is chosen from Eudragit L or cellulose acetatephthalate, or Hydroxypropylmethylcellulosephthalate or Hydroxypropylmethyl-celluloseacetatesuccinate type L.

- 16) Formulation according to claim 7 wherein the fatty acid is stearic acid.

- 35 17) Formulation according to claim 7 wherein the pharmaceutically acceptable plasticizer

is diethylphtalate.

18) Formulation according to preceding claims 1-9 wherein such mixture of polymers
soluble starting from pH 6.5 is Eudragit L or Hydroxypropylmethylcellulosephtalate
5 or Hydroxypropylmethylcelluloseacetatesuccinate type L in a mixture 1:1 with
Eudragit S.

19) Formulation according to preceding claims 1-9 wherein such polymer soluble starting
from pH 7 is Eudragit S or Eudragit FS30D or
10 Hydroxypropylmethylcelluloseacetatesuccinate type M

20) Formulation according to claim 4 wherein mesalazine, as active ingredient, is ranging
from 100 to 3000 mg.

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